

What we claim is:

1. A composite film comprising a substrate, said substrate has a layer of a non-stoichiometric metal oxide.
2. The composite film according to claim 1, further comprising a layer of a stoichiometric metal oxide on said layer of a non-stoichiometric metal oxide.
3. The composite film according to claim 1, further comprising a layer of polymer laminated on said layer of a non-stoichiometric metal oxide.
4. The composite film according to claim 2, further comprising a layer of polymer laminated on said layer of stoichiometric metal oxide.
5. The composite film according to claim 3, further comprising at least one or more additional layers of a substrate laminated between said non-stoichiometric metal oxide coated substrate layer and said polymer layer.
6. The composite film according to claim 3, further comprising at least one or more additional layers of non-stoichiometric metal oxide coated substrate laminated between said first non-stoichiometric metal oxide coated substrate layer and said polymer layer.
7. The composite film according to claim 1, further comprising an anti-static material coated on said layer of polymer and/or on said layer of substrate.
8. The composite film according to claims 1-7 wherein the thickness of said substrate layer ranges between 10 and 100 micron.
9. The composite film according to claim 3-6 wherein the thickness of said layer of polymer ranges between 30 and 200 micron.
10. The composite film according to claim 7 wherein the thickness of said layer of anti static material ranges between 0.003 and 0.01 micron.

11. The composite film according to claim 1-7, wherein the thickness of said non-stoichiometric metal oxide layer ranges between 50 and 1500 Angstrom.
12. The composite film according to claim 2 and 4, wherein the thickness of said stoichiometric metal oxide layer ranges between 50 and 3000 Angstrom.
- 5 13. The composite film according to claims 1-7 and 8, wherein said substrate is selected from the group consisting of polyethylene terephthalate, polyester, polypropylene, polyvinylidene fluoride and polycarbonate.
14. The composite film according to claim 13, wherein said substrate is polyester.
15. The composite film according to claims 1-7 and 11-12, wherein said metal is
10 selected from the group consisting of aluminum, titanium, magnesium, copper, nickel, chromium or zinc.
16. The composite film according to claim 15, wherein said metal is aluminum.
17. The composite film according to claims 3-6 and 9, wherein said polymer is selected from the group consisting of linear low density polyethylene, low density
15 polyethylene, medium density polyethylene, high density polyethylene, ethylene vinyl acetate, ethylene vinyl alcohol and polypropylene.
18. The composite film according to claim 17, wherein said polymer is low density polyethylene.
19. The composite film according to claims 3-6, further comprising at least one or
20 more adhesive layers.
20. The method according to claim 19, wherein said adhesive is an acrylic or a polyurethane adhesive.
21. The composite film according to claim 19 wherein the thickness of said layer of adhesive ranges between 1.5 and 10 micron.

22. A method for producing a composite film comprising depositing a layer of a non-stoichiometric metal oxide on a substrate.
23. The method according to claim 22, further comprising depositing a layer of a
5 stoichiometric metal oxide on said layer of a non-stoichiometric metal oxide.
24. The method according to claim 22, further comprising the step of laminating a layer of polymer on said layer of a non-stoichiometric metal oxide.
25. The method according to claim 23, further comprising the step of laminating a layer of polymer on said layer of stoichiometric metal oxide.
- 10 26. The method according to claim 24, further comprising the step of laminating at least one or more additional layers of substrate between said non-stoichiometric metal oxide coated substrate layer and said polymer layer.
27. The method according to claim 24, further comprising the step of laminating at least one or more additional layers of non-stoichiometric metal oxide coated substrate
15 between said first non-stoichiometric metal oxide coated substrate layer and said polymer layer.
28. The method according to claims 22-27, further comprising the step of coating said layer of polymer and/or said layer of substrate with an anti-static material.
29. The method according to claims 22-27, wherein said layer of metal oxide is
20 deposited on said substrate layer by thermal evaporation, electron beam evaporation or sputtering.
30. The method according to claim 29, wherein said substrate layer is moving in a selected rate during a selected deposition rate, whereby the thickness of said layer of metal oxide is determined.

31. The method according to claim 30, wherein the thickness of said metal oxide layer is substantially similar in any two selected locations of said composite film.
32. The method according to claims 22-28 wherein the thickness of said substrate layer ranges between 10 and 100 micron.
33. The method according to claim 23-27 wherein the thickness of said layer of polymer ranges between 30 and 200 micron.
34. The method according to claim 28 wherein the thickness of said layer of anti static material ranges between 0.003 and 0.01 micron.
35. The method according to claim 22-31, wherein the thickness of said non-stoichiometric metal oxide layer ranges between 50 and 1500 Angstrom.
36. The method according to claim 23 and 25, wherein the thickness of said stoichiometric metal oxide layer ranges between 50 and 3000 Angstrom.
37. The method according to claims 22-33 and 32, wherein said substrate is selected from the group consisting of polyethylene terephthalate, polyester, polypropylene, polyvinylidene fluoride and polycarbonate.
38. The composite film according to claim 37, wherein said substrate is polyester.
39. The method according to claims 22-31 and 35-36, wherein said metal is selected from the group consisting of aluminum, titanium, magnesium, copper, nickel, chromium or zinc.
40. The method according to claim 39, wherein said metal is aluminum.
41. The method film according to claims 24-27 and 33 wherein said polymer is selected from the group consisting of linear low density polyethylene, low density polyethylene, medium density polyethylene, high density polyethylene, ethylene vinyl acetate, ethylene vinyl alcohol and polypropylene.

42. The method film according to claim 41, wherein said polymer is low density polyethylene.
43. The method according to claims 24-37, said polymer and said substrate are laminated using an adhesive layer.
- 5 44. The method according to claim 43, wherein said adhesive is an acrylic or a polyurethane adhesive.
45. The method according to claim 43 wherein the thickness of said layer of adhesive ranges between 1.5 and 10 micron.
46. A material comprising a composite film according to any of the claims 1-22.
- 10 47. Use of a composite film according to any of the claims 1-22 for wrapping an object.